Homework 4 Introduction to SQL

1. A second-hand car dealer keeps a record of customers who have purchased cars.

   The data held on each table includes the following fields:

   Customer

CustID	Surname	Initials	email
1234	Banya	F	fbanya@hotmail.com
1240	Shreeve	PL	plshreeve@icloud.com
1245	Barker	AD	annBarker@fbarker.com
1266	Moore	C	colinm129@gmail.com
1304	Horton	JJ	jjh@yahoo.co.uk
1366	Gold	DS	dsg@yahoo.co.uk

   Car

ID	Make	Model	YearRegistered	Mileage	Doors	Price	CustID	PurchaseDate
F03	Ford	Fiesta	2000	116,000	3	£999	1304	12/04/2004
F05	Ford	Mondeo	2005	92,000	5	£1,200	1240	05/07/2009
N07	Nissan	Juke	2012	33,400	3	£5,500	1366	16/11/2015
N09	Nissan	Micra	2001	92,500	3	£895	1366	30/05/2008
P08	Peugeot	407 Estate	2008	56,700	5	£2,850	1245	01/06/2011
V01	Vauxhall	Meriva	2005	105,000	5	£1,020	1366	22/04/2008
V02	Vauxhall	Insignia	2012	56,000	5	£9,000	1234	10/10/2013
V04	VW	Beetle	2003	155,000	3	£995	1234	03/08/2008
V06	Vauxhall	Astra	2009	30,000	5	£5,395	1240	17/09/2011

   (a) Write the entity descriptions for the entities **Customer** and **Car** in the format:

   Entity(attribute1, attribute2, ….) [2]

   (b) Identify primary and foreign keys, where they exist, in both tables. [2]

   (c) Draw an entity relationship diagram showing the relationship between the two tables. [2]

(d) Write an SQL statement using keywords SELECT… FROM… WHERE…ORDER BY
to extract a list of the make, model, year registered and price of all 5-door cars costing less than £2000, sequenced in descending order of price. [4]

(e) Write an SQL statement using keywords SELECT… FROM… WHERE…ORDER BY
to extract a list, sequenced by surname and initials, of customer IDs, surnames, initials and email addresses of all customers who purchased cars between 2009 and 2011 inclusive, together with the make of car and price paid. [6]

(f) Write an SQL statement to extract all the details of cars with *make* beginning with "V".
[2]

(g) The Car database is in Third Normal Form. Explain what this means. [2]

Total 20 marks